

REMARKS

This application has been carefully reviewed in light of the non-final Office Action dated March 9, 2007. Claim 2 has been cancelled, without prejudice or disclaimer of subject matter. Claims 1 and 3 to 7 remain in the application, of which claims 1 and 3 have been amended. Claim 1 is the sole independent claim. Reconsideration and further examination are respectfully requested.

Initially, the Applicants note that FIGS. 7A to 7B and 8A to 8C, which were previously objected to, have been amended in accordance with the Examiner's suggestion. Withdrawal of the drawing objection and further examination are therefore respectfully requested.

Further, regarding the objection to claims 1 to 3 under 35 U.S.C. § 112, ¶ 1, the Applicants note that feature of "a selecting unit" has been removed from claims 1 and 3 and that claim 2 have been cancelled, all without prejudice or disclaimer of subject matter and without conceding the correctness of the objection. Withdrawal of the objection, as moot, and further examination are thus respectfully requested.

Claims 1 to 3 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 6,005,538 ("Hoekstra"); and claims 4 to 7 were rejected under 35 U.S.C. § 103(a) over Hoekstra in view of U.S. Patent No. 5,155,413 ("Bozzer"). As indicated above, claim 2 has been cancelled, without prejudice or disclaimer of subject matter and without conceding the correctness of the rejection. Furthermore, claim 1 has been amended to incorporate the substance of cancelled claim 2, and to further clarify several additional features, without adding new matter. Withdrawal of the § 102 and § 103 rejections and further examination are respectfully requested.

Referring to particular claim language, independent claim 1 recites a driving circuit for a vacuum fluorescent display having a filament, a grid electrode and a segment electrode. The driving circuit includes a first controlling unit configured to receive a first dimmer adjustment data for adjusting duty ratio of a grid drive signal that is a drive signal to the grid electrode, and to output a first dimmer control signal having duty ratio corresponding to the first dimmer adjustment data. The driving circuit also includes a second controlling configured to receive a second dimmer adjustment data for adjusting duty ratio of a segment drive signal that is a drive

signal to the segment electrode, and to output a second dimmer control signal having duty ratio corresponding to the second dimmer adjustment data. Furthermore, the driving circuit also includes a first multiplexer unit configured to output either the first dimmer control signal output from the first controlling unit or a driving signal having a predetermined duty ratio as the grid drive signal, based on a first dimmer type select flag indicating whether duty ratio of the grid drive signal should be adjusted or not. Moreover, the driving circuit includes a second multiplexer unit configured to output either the second dimmer control signal output from the second controlling unit or a driving signal having a predetermined duty ratio as the segment drive signal, based on a second dimmer type select flag indicating whether duty ratio of the segment drive signal should be adjusted or not.

The applied art is not seen to disclose, teach or to suggest the foregoing features recited by the independent claim. In particular, Hoekstra is not seen to disclose, nor does the Office Action even assert that Hoekstra discloses, at least the features that *i)* first dimmer adjustment data is received for adjusting duty ratio of a grid drive signal that is a drive signal to the grid electrode, and to output a first dimmer control signal having duty ratio corresponding to the first dimmer adjustment data; *ii)* second dimmer adjustment data is received for adjusting duty ratio of a segment drive signal that is a drive signal to the segment electrode; *iii)* a second dimmer control signal is output having duty ratio corresponding to the second dimmer adjustment data; *iv)* either the first dimmer control signal output from the first controlling unit or a driving signal having a predetermined duty ratio is output as the grid drive signal, based on a first dimmer type select flag indicating whether duty ratio of the grid drive signal should be adjusted or not; and *v)* either the second dimmer control signal output from the second controlling unit or a driving signal having a predetermined duty ratio is output as the segment drive signal, based on a second dimmer type select flag indicating whether duty ratio of the segment drive signal should be adjusted or not.

Hoekstra discloses the driving of a vacuum display device, using a segment selecting circuit that selectively applies a potential of a particular polarity to a segment to illuminate that segment, and a grid driver circuit that applies a potential of that polarity to the grid in order to illuminate the device. *See* Hoekstra, Abstract. While it is true that Hoekstra (and indeed another patent cited by Hoekstra) describe that either of the outputs 44 or 48 could be modulated, such as

by pulse-width modulation or the like, in order to control display intensity, it is also true that Hoekstra does not provide for the adjustment of duty ratios of the grid and segments based on control signals, such as dimmer adjustment data and a dimmer type select flag. *See* Hoekstra, col. 6, ll. 3 to 6.

For these and other reasons, Hoekstra is also not seen to disclose, nor does the Office Action even assert that Hoekstra discloses, at least the that *i)* first dimmer adjustment data is received for adjusting duty ratio of a grid drive signal that is a drive signal to the grid electrode, and to output a first dimmer control signal having duty ratio corresponding to the first dimmer adjustment data; *ii)* second dimmer adjustment data is received for adjusting duty ratio of a segment drive signal that is a drive signal to the segment electrode; *iii)* a second dimmer control signal is output having duty ratio corresponding to the second dimmer adjustment data; *iv)* either the first dimmer control signal output from the first controlling unit or a driving signal having a predetermined duty ratio is output as the grid drive signal, based on a first dimmer type select flag indicating whether duty ratio of the grid drive signal should be adjusted or not; and *v)* either the second dimmer control signal output from the second controlling unit or a driving signal having a predetermined duty ratio is output as the segment drive signal, based on a second dimmer type select flag indicating whether duty ratio of the segment drive signal should be adjusted or not.

Based on the foregoing arguments and remarks, independent claim 1 is believed to be allowable over the applied reference. The other rejected claims in the application are each dependent on this claim and are thus believed to be allowable over the applied reference for at least the same reasons. Because each claim is deemed to define additional aspects of the disclosure, the individual consideration of each claim on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance and such action is courteously solicited.

Applicant : Arai et al.
Serial No. : 10/808,588
Filed : March 25, 2004
Page : 8 of 8

Attorney's Docket No.: 16359-007001 / 722/SM/toh

No fees are believed to be due at this time. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: May 17, 2007

/David E. A. Jordan/
David E. A. Jordan
Reg. No. 50325

Fish & Richardson P.C.
1425 K Street, N.W.
11th Floor
Washington, DC 20005-3500
Telephone: (202) 783-5070
Facsimile: (202) 783-2331

40416934.doc